


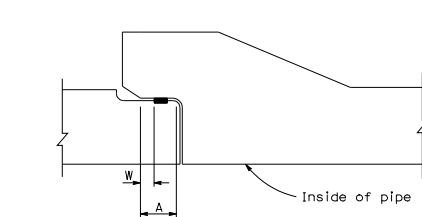


|       |        |       |                             |           |              |
|-------|--------|-------|-----------------------------|-----------|--------------|
| DIST. | COUNTY | ROUTE | POST MILES<br>TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|       |        |       |                             |           |              |

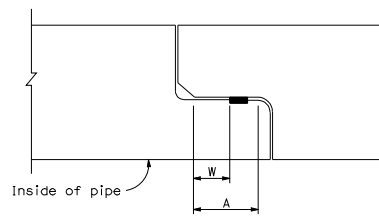
REGISTERED CIVIL ENGINEER  
 May 1, 2006  
 PLANS APPROVAL DATE  
 Glenn DeCau  
 No. C34547  
 Exp. 9-30-07  
 CIVIL  
 STATE OF CALIFORNIA  
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## LEGEND

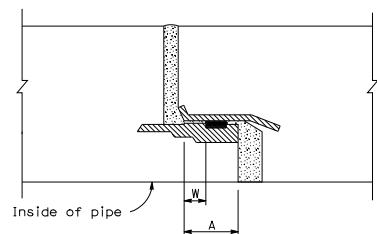
-  Cement Mortar  
 Rubber Gasket  
 Steel



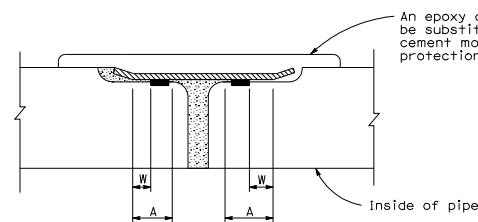
CONCRETE JOINT-FLARED BELL DESIGN



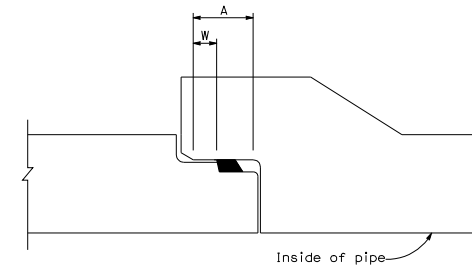
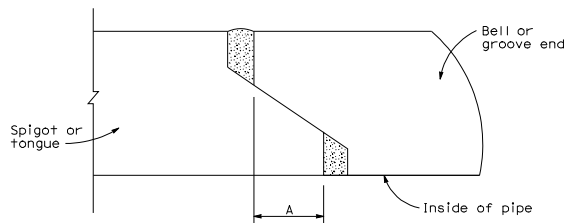
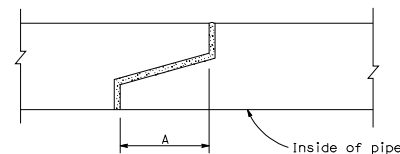
CONCRETE JOINT-FLUSH BELL DESIGN



STEEL JOINT-FLUSH BELL DESIGN



CONCRETE JOINT-DOUBLE GASKET DESIGN

CONCRETE JOINT-SINGLE OR DOUBLE OFFSET DESIGN  
(Flared or Flush Bell)SELF-CENTERING TONGUE & GROOVE  
(See Note 4)

TONGUE &amp; GROOVE DESIGN

## NOTES:

- For pipe sections installed on straight alignment, the pipe sections shall be joined to provide maximum joint overlap at all points on the joint periphery, but in no case less than the values shown in Table A for "W" if the installation is required to be watertight or "A" for all other installations.
- For pipe sections installed on curved alignment, the pipe sections shall be joined to provide maximum joint overlap on one side of the joint and not less than 1/4" overlap on the other. The 1/4" overlap shall be the "W" dimension for installations required to be watertight, or the "A" dimension for all other installations.
- Watertight joint requirement shall typically be met with the use of rubber gaskets as shown (See Standard Specifications 61-1.02 and 65-1.06). Pipe installed with rubber gaskets shall have a minimum overlap meeting or exceeding the indicated "W" dimension shown in Table A or indicated in Note 2. Joints shown with rubber gaskets may be installed without gaskets in non-watertight applications, in which case the joint shall be sealed with sealing materials described in Standard Specifications 65-1.06, and the minimum joint overlap shall meet or exceed the "A" dimension shown in Table A or indicated in Note 2.
- For Self-Centering Tongue and Groove Joints, the mortar shall be applied after the pipe ends are pushed together. The mortar shall be applied to the joint gap on the inside of the pipe for pipe diameters of 24" or more, or to the gap on the outside of the pipe for pipe smaller than 24" in diameter.
- When watertight joints are required (See Note 3) and cement mortar joints are not allowed, the taper on surfaces within the "W" dimension at full joint closure and the opposing sealing surfaces of the bells and spigots on which the rubber gaskets may bear during closure of the joint and at any degree of partial closure shall form an angle of not more than 2 degrees with the longitudinal axis of the pipe.

TABLE A

| PIPE DIAMETER LIMITS | MINIMUM JOINT OVERLAP |              |              |              |
|----------------------|-----------------------|--------------|--------------|--------------|
|                      | Standard "A"          | Positive "A" | Standard "W" | Positive "W" |
| 6" through 12"       | 1/4"                  | 1/2"         | 1/4"         | 3/8"         |
| 15" through 33"      | 1/2"                  | 3/4"         | 1/4"         | 1/2"         |
| Greater than 33"     | 3/4"                  | 1"           | 3/8"         | 5/8"         |

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

# REINFORCED CONCRETE PIPE OR NON-REINFORCED CONCRETE PIPE STANDARD AND POSITIVE JOINTS

NO SCALE

D97H